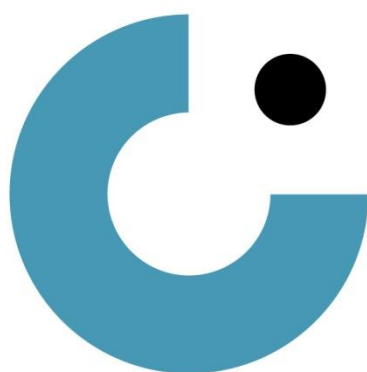


2012



SMARTJUMPER

energía inteligente

[SMARTJUMPER: USER MANUAL]

Energy saving system.

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1. USER MANUAL SMARTJUMPER 1.0 Y 2.0

1.1. SmartJumper Main Features

Power factor correction device. The device conducts and stores the active power measurements, reactive power, maximum amps consumed , cosine phi, amps and voltages at the facility.

It has a system for collecting digital inputs alarms or external events. It has a timetable system for the activation of different devices hours and days depending on the programming scheduled.



Basic Module SJR-15D

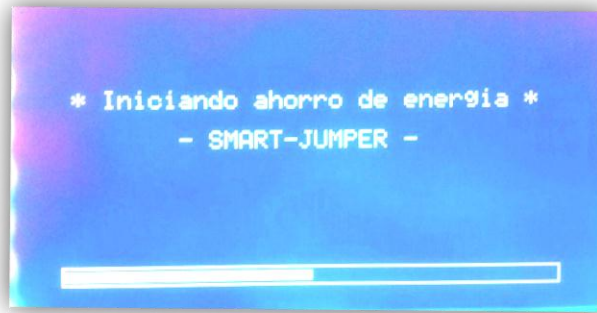


CSL Digital

1. POWER SAVING SYSTEM.
2. Viewing status.
3. Energy Consumption Control of facility.
4. Archival Data Display, Day, Month, Year.
5. Configurable Alarm System.
6. Power Factor Correction and Cos (Φ).
7. Easy navigation through the different options of the system.
8. Control of the Automatic or Manual.
9. Mono-phase measurement or Tri-Phasic

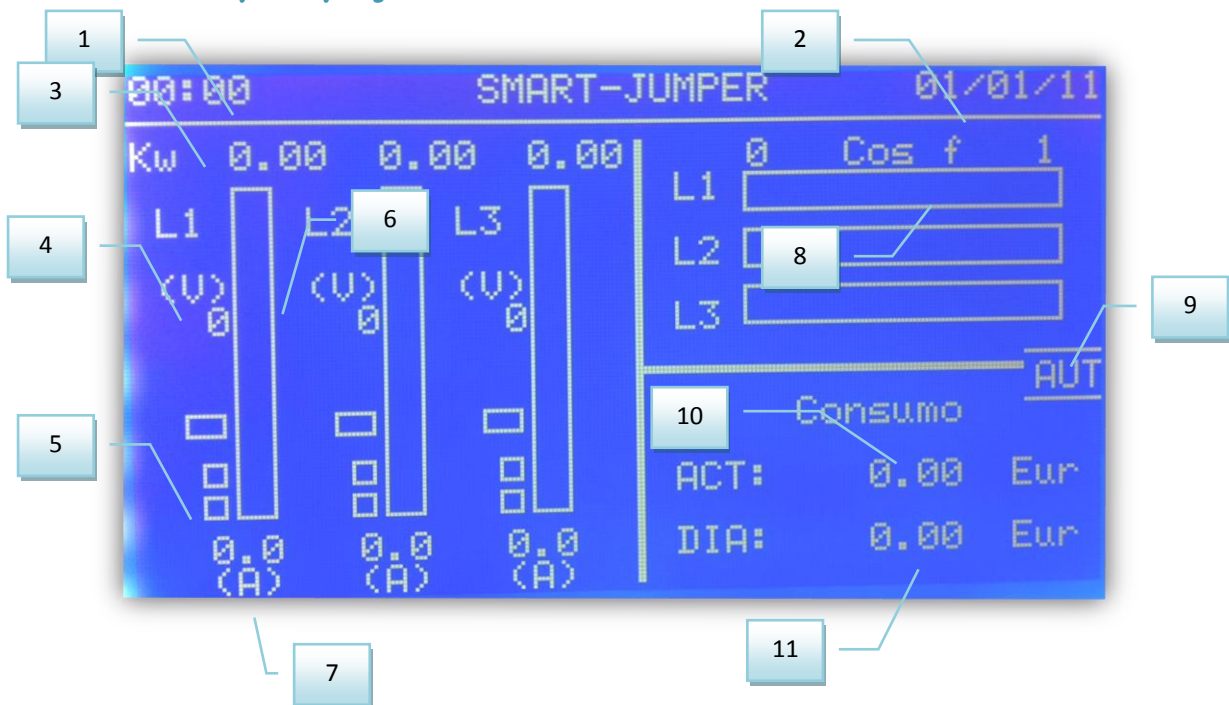


1.2. Main Screen



System startup screen: Prepare the system for initialization.

1.3. Startup Display

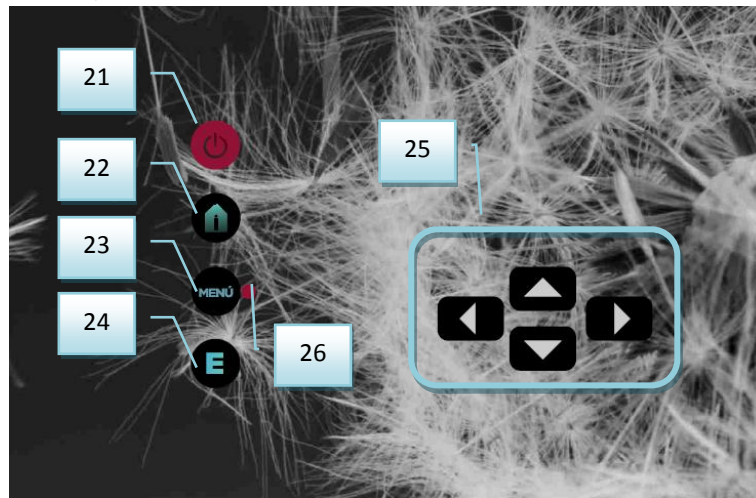


When finished after turning on the system, all values will start automatically, we will access the system home screen, showing the following information:

1. System Time: Indicates the current system time.
2. Date System: Indicates the current system date.
3. Power Phases: Instant Active Power at each stage (Kw / h).
4. Voltage: Current voltage in each phase (V).
5. Relay status: Relay system indicator.
6. Intensity: Indicator bar of current intensity at phase (A).
7. Intensity: Current intensity phase numerical data (A).
8. Cos (Φ): Graph bar indicating the value of cos phi.
9. Operation mode: System operating mode (Auto-Manual).
10. Current expenditure: Consumption euro per hour (Euro / h).
11. Current Day: cumulative consumption per day (Euro)..



1.4. SmartJumper Controls



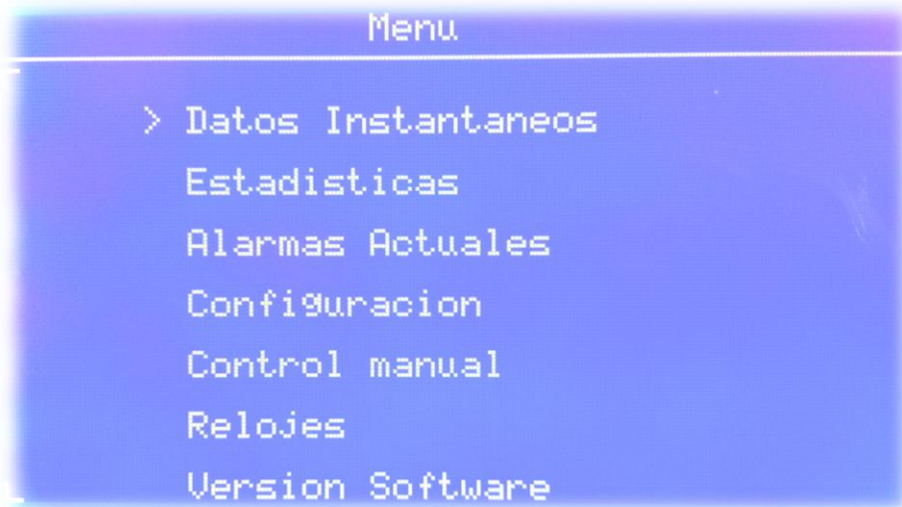
Controles del SMART-JUMPER. Para controlar nuestro sistema tenemos el panel que vemos en la figura superior.

SMART-JUMPER controls. To control our system we have the panel we see in the picture above.

- 21 – Operation mode control (Automatic-Manual).
- 22 - Shortcut Key to the initial screen of the system.
- 23 - System Menu Key Access.
- 24 - Confirmation key (for access to sub-menus and so on).
- 25 - Keyboard navigation menus.
- 26 - Led indicator of the presence of alarms in the system.



1.5. Menú



The main menu consists of the following options:

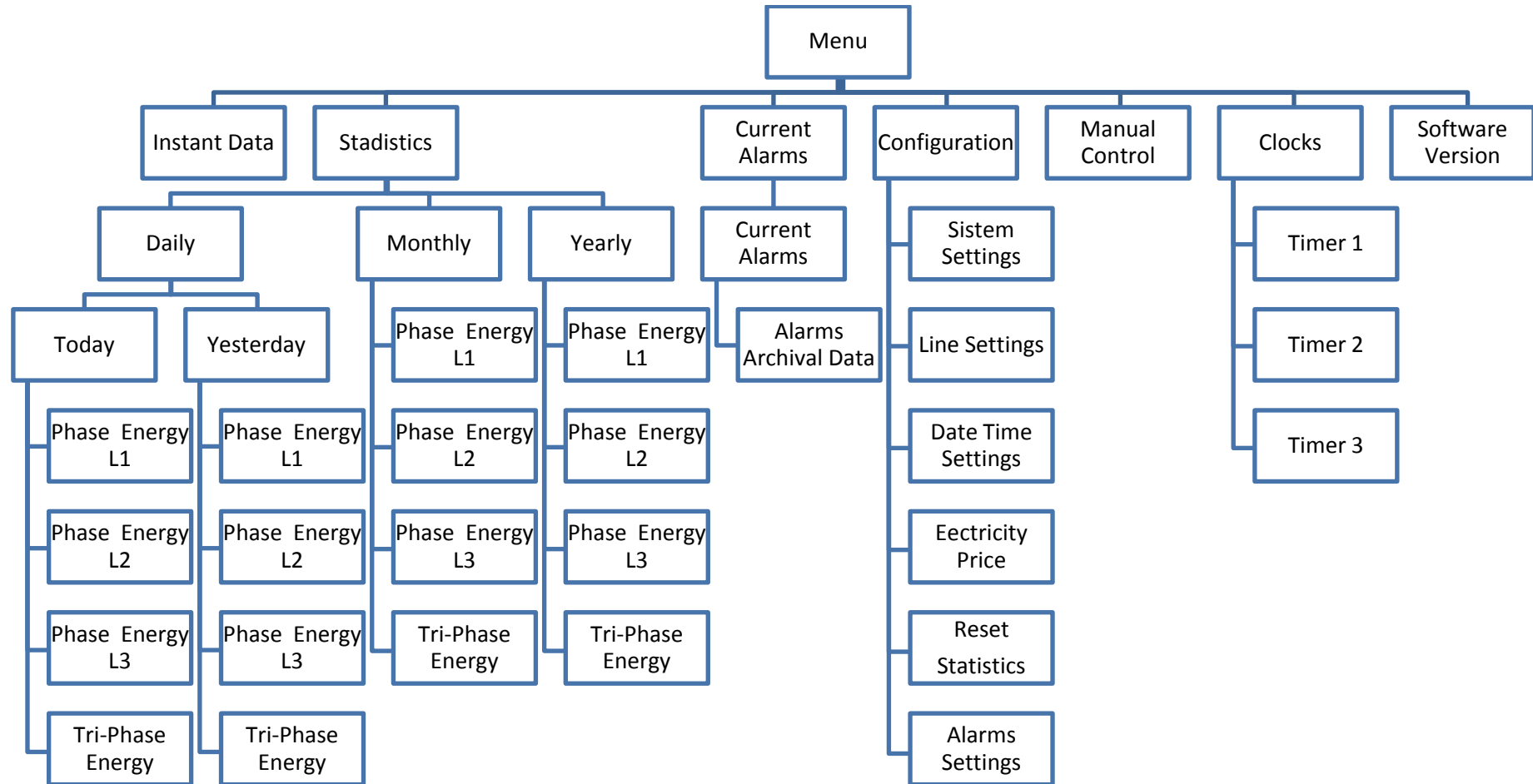
1. Instant Data: Instant data collected by SmartJumper, useful for monitoring network status .
2. Statistics. We can check cumulated data since our system has been launched.
3. Current Alarms: this sub-menu shows active alarms and alarm record.
4. Configuration: this sub-menu shows SmartJumper settings.
5. Manual control: the SmartJumper is designed for optimal automatic energy control although, it also allows manual management.
6. Clocks: activation and deactivation of digital outputs with configurable schedule. (Activation output by relay).
7. Software Version: indicates the software version and hardware of our SmartJumper.

Below we can view complete organization of all the options available to us in our system, to

be accessed via navigation keys  (No. 25) and the Enter key (No. 24) .



1.6. Full menu chart




1.7. Instant data

At the time data display all the data we see the power line which is connected SmartJumper.

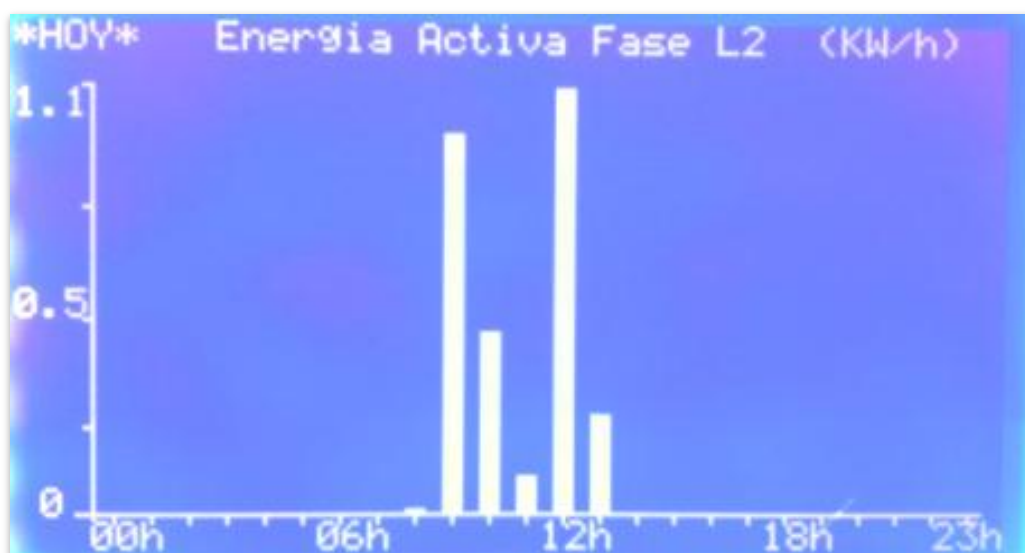
1.8. Statistics

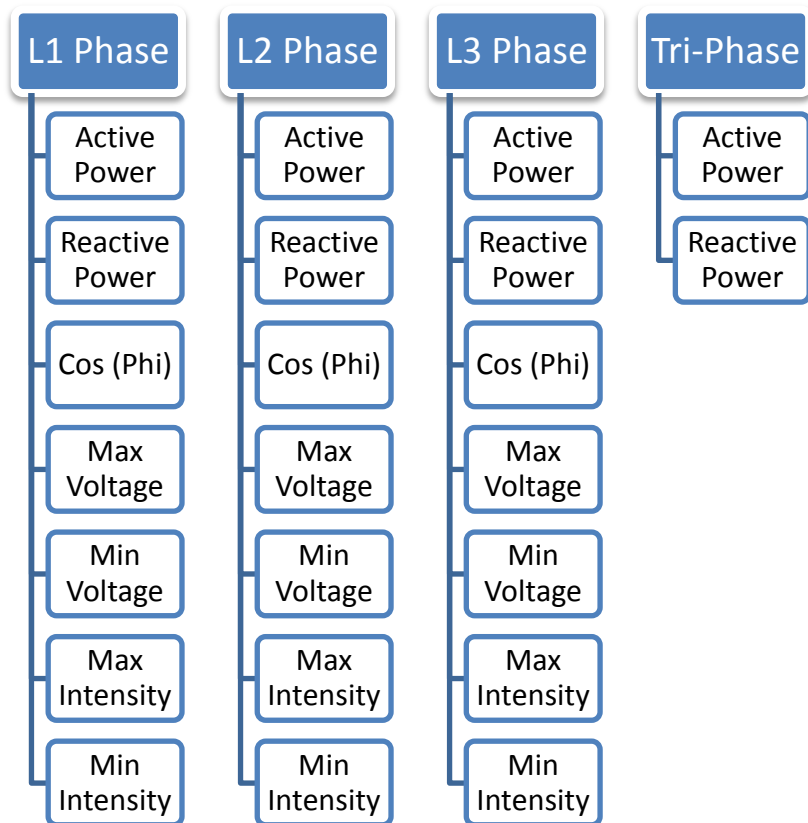
The stats menu shows data stored in memory. SmartJumper stores all data to be checked by user at any time. The stored data is sorted by date, Current/Previous Day, Month, Year for each of the 3 phases individually, and also for Three-phase configuration.

By selecting the sub-menus to get statistics screen that shows the final format data bars to

move through them we will use the navigation keys (No. 25)  up and down, to go back "arrow left. "

Within each phase, and three-phase we will be navigating through the screens described in the following chart:





1.9. Current alarms

The alarm menu shows the alarms that are currently active. We may also view alarms record, entering the option "Alarm Record" on screen.

When an alarm is active it shows a warning light on the control panel of the device. (No. 26).

1.10. Configuration

Through the configuration menu you can access the following sub-menus:

1.10.1 System settings

The options to this point are as follows.

Saving mode: Normal and Max saving mode choices.

Normal mode corrects the power factor of different lines, lines that are balanced.



For lines that are not balanced normal mode produces the highest accuracy and energy savings.

Probe type: Depending on the gauge of wire on which to be measured, you can choose 10/16/36mm probes.

Language: Shows different computer languages.

1.10.2 Date and time settings

Through this option you can set the system date and time

1.10.3 Electricity test

This option sets the price of electricity as follows:

- Price of active energy.
- Price of reactive power when $\cos \phi$ is less than 0.8.
- Price of reactive power when the $\cos \phi$ is greater than 0.8 and less than 0.95.

1.10.4 Home screen settings

You can choose two types of home screens.

Cos ϕ : This screen also shows $\cos \phi$ on each phase.

Consumption: Shows information comparing consumption of current and previous day of the week.

1.10.5 Alarms Settings

You can program the following alarms

Maximum voltage alarm.

Minimum voltage alarm.

Maximum intensity alarm. When the current consumption exceeds this value an alarm in the system goes on.



1.10.6 Allocation of Relays

This screen selects the relay assigned to each of the following functions.

Alarm Relay

Relay Clock 1

Relay Clock 2

Relay Clock 3

1.10.7 Probes Test

Once installed, the computer can check that current probes are installed correctly.

When you run this option if one probe is inserted upside down or not in the proper phase, it prompts you to operate correctly. Once you have made the suggested changes, retake the probe test to check that everything is correct.

IMPORTANT. If there is any capacitor pack installed on facility, put it to sleep before the probe test.

1.10.8 Reset statistics

This option will delete all statistics.

1.10.9 Full system reset

This option is used to set all system variables to their default

1.11. Manual Control

You can only access Manual control panel when system operating mode is "Manual",



you can press hotkey to switch manual / automatic:

When operating in manual mode, we can activate and deactivate outputs in order to use system manually. This is done through the buttons above and below, click "E" for executing.

E



1.12. Clocks

In the menu we can set different timings on SmartJumper outputs, so we have the ability to handle electrical appliances through our system.

SmartJumper has 3 outputs to relays that we can temporize to our liking. To access time settings:

"Clocks" -> "time clocks" ->

Here we selected the state of the timer "ON", "OFF", the start time and end of our timing, and also entering the configuration of the "Days" we can select the output relay and the days of the week we want to activate the exit.

Note: When activated you can visualize a clock on the screen itself Clocks (Relay *) before the status.

1.13. Software version

By accessing this option, you can see the software version you have on your system, both the Digital and Power Software versions.



1.14. Module specifications

All modules conform to the following standards:

89/392/CEE, 73/336/CEE, 73/23/CEE, IEC 60831- 1/2

1.14.1. SJR-15D Saving device module 15 KVar Display Vía Radio

Device:	Max correction 15KVar
	Single-Phase Voltage: 230Vac
	Tri-Phase Voltage: 400Vac
Relays REL1,REL2,REL3:	Aproved IEC/VDE
	Max Voltage: 230Vac
	Max Intensity: 3A
Power Input Terminals N,L1,L2,L3:	Aproved IEC/VDE
	Max Voltage: 50Vac
	Max Intensity: 25A
Intensity Probes:	Class 1.0
	Linearity 0.5%
	Frecuency 20 a 400Hz
	IEC 60831- 1/2
Digital Inputs.	Voltaje output 5Vdc
	Intensity: 50ma
Capacitors:	Operation Frecuency 50/60Hz
	Regulations: IEC 60831- 1/2



1.14.2. Saving device module SJR-15KVar vía radio

Nominal Voltage	230Vac/400Vac/440ac
	Single Phase Power: L1+N
	Tri-Phase Power: L1+L2+L3+N
Nominal Voltage	15KVar
Capacitors	POLIMET
Stages Number	4 stages / 2 Single-Phase /2 Tri-Phase
Power Protection	1 fuse per phase 20A
Fixing:	Wall plastic cabinet
Phases Measurements	Independent 3 phases measurements
	Adaptors not included
Display	5" monochrome LCD
Adaptors Type	EL10 / EL16 / EL36 (NO incluidas)
Digital Inputs	3
Digital Outputs	3 Contact voltage relays,
Max Relay Intensity	4 A
Temperature Probe	Average range: -22 °C to 80°C
Radio System	Not included in all models
Radio Frequency	2.4GHz



1.14.3. Saving device module SJR-35KVar vía radio

Nominal Voltage	230Vac/400Vac/440ac
	Single Phase Power: L1+N
	Tri Phase Power: L1+L2+L3+N
Nominal Power	35KVar
Capacitors	POLIMET
Number of Stages	4 stages / 2 Single Phase /2 Tri Phase
Electrical Protection	1 fuse per phase 63A
Fixing:	Wall Metal Cabinet
Phases Measurements	Independent 3 phase measurements
	Adaptors not included
Type of Adaptors	EL10 / EL16 / EL36 (NOT included)
Digital Inputs	3
Digital Outputs	3 Contact voltage relays,
Max Relay Intensity	4 A
Temperature Probe	Average Range: -22 °C to 80°C
Radio System	Not included in all models
Radio Frequency	2.4GHz



1.14.4. Saving device module SJR-60KVar vía radio

Nominal Voltage	230Vac/400Vac/440ac
	Single Phase Power: L1+N
	Tri Phase Power: L1+L2+L3+N
Nominal Power	60KVar
Capacitors	POLIMET
Number of Stages	5 Tri-Phase Stages
Electrical Protection	3 fuses per phase 100A NH00 Kind
Fixing:	Wall Metal Cabinet
Phases Measurements	Independent 3 phase measurements
	Adaptors not included
Type of Adaptors	EL10 / EL16 / EL36 (NOT included)
Digital Inputs	3
Digital Outputs	3 Contact voltage relays,
Max Relay Intensity	4 A
Temperature Probe	Average Range: -22 °C to 80°C
Radio System	Not included in all models
Radio Frequency	2.4GHz



1.14.5. Saving device module SJR-85KVar vía radio

Nominal Voltage	230Vac/400Vac/440ac
	Single Phase Power: L1+N
	Tri Phase Power: L1+L2+L3+N
Nominal Power	85KVar
Capacitors	POLIMET
Number of Stages	5 Tri-Phase Stages
Electrical Protection	3 fuses per phase 100A NH00 Kind
Fixing:	Wall Metal Cabinet
Phases Measurements	Independent 3 phase measurements
	Adaptors not included
Type of Adaptors	EL10 / EL16 / EL36 (NOT included)
Digital Inputs	3
Digital Outputs	3 Contact voltage relays,
Max Relay Intensity	4 A
Temperature Probe	Average Range: -22 °C to 80°C
Radio System	Not included in all models
Radio Frequency	2.4GHz



1.14.6. CSL Digital console SMARTJUMPER 2.0

Function	Data representation and control of smartjumper
Connections	4-wire connection Feeding 5Vdc (V+,V-) Communications (C+,C-)
Dimensions	Hight: 31.5cm Width: 18cm
Screen	Monochrome of 5"



1.14.7. RES2 Digital Input Module / Temperature / radio relay outputs

Nominal Voltage	230Vac/50Hz
Functions	<ul style="list-style-type: none">* Entrada analógica* Output Input / Digital Output* Repeater function of the communications network
Digital Inputs	2
Digital Outputs	2 Contact voltage relays,
Max Relay Intensity	4 A
Temperature Probe	Average Range: -22 °C to 80°C
Radio Frequency	2.4GHz



1.14.8. MVR2 Measurement module via radio

Nominal Voltage	230Vac/400Vac/440ac
	Single Phase Power: L1+N
	Tri Phase Power: L1+L2+L3+N
Phase Measurement	Measuring 3 separate phases
	Transformers not included
Transformers	EL10 / EL16 / EL36 (NOT included)
Digital Inputs	2
Digital Outputs	2 Contact voltage relays,
Max Relay Intensity	4 A
Temperature Probe	Average Range: -22 °C to 80°C
Radio Frequency	2.4GHz

